

PHYTOPHTHORA ROOT & CROWN ROT OF RADERMACHERA SINICA

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Radermachera sinica (Hance) Hemsl., a member of the Bignoniaceae, occurs naturally in India, China, Java, the Celebes and the Phillipine Islands. This plant is a relatively new introduction to the foliage market in Florida and is used most commonly as indoor accent plants. Radermachera sinica is easy to grow and can be propagated by cuttings, marcottage and seed (1).

SYMPTOMS: Few diseases are recorded on Radermachera sinica; however, Phytophthora parasitica Dastur, which has a wide host range, can cause a serious root and stem rot. It is also quite aggressive as a damping off disease of Radermachera seedlings. (DPI, Plant Pathology Files, UNPBL.). Phytophthora parasitica infects the young tender roots and stem tissue of seedlings resulting in their collapse and death. Overfertilization and poorly drained/overwatered media can play an important role in predisposing these plants to infection by Phytophthora. Older, more established Radermachera plants can also fall prey to this disease; however, symptoms tend to be less obvious at the initial onset of infection. Infected R. sinica plants eventually become unthrifty and chlorotic. Defoliation occurs as symptoms progress and eventually stems become necrotic. This gives infected plants an overall thin, flagged appearance.



Fig. 1. Defoliation, collapsed foliage and blighted stems are symptoms expressed by the infected Radermachera seedling on the left. (DPI Photo #87131 by Jeffrey W. Lotz).

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CONTROL: Since P. parasitica can infect many different host plants, control or management strategies should focus on the source of inoculum. Clean Radermachera stock may become infected by inoculum spread from other host plants in the area. Therefore, it is important to monitor surrounding host plants for symptoms of Phytophthora infection. Sanitary cultural practices are also essential for an effective control program. Control of P. parasitica root rot consists of both cultural and chemical methods. The use of clean stock and aseptic propagation techniques coupled with moderate fertilization and well drained pathogen-free media should help to insure a high rate of success with R. sinica. Reduction or elimination of overhead watering can also be very important in curbing the spread of this disease (2). Chemical control of Phytophthora on Radermachera is limited by the lack of EPA registered fungicides. Banol, which has a broad crop clearance for woody ornamentals, can provide an adequate protective treatment against this disease (3). In the event that infection occurs, rogue diseased seedlings or plants and drench remaining healthy stock with Banol.

SURVEY & DETECTION: Radermachera seedlings infected with Phytophthora normally display necrotic stunted roots and stems, as well as wilted foliage. Varying degrees of foliar chlorosis may occur when seedlings are suffering from this disease.

More mature potted Radermachera plants also exhibit stem necrosis, chlorotic wilted foliage, defoliation, and a abbreviated, necrotic root system.

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